## RECEIVED

## RECEIVED

AUG 1 2 2002

AUG 0 9 2002



TECH CENTER 1600/2900

1632 1600

TECH CENTER 1600/2900

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/729,658C

DATE: 08/06/2002
TIME: 17:02:16

Input Set : A:\55924.app

```
3 < 110 > APPLICANT: Zonana et al.
   5 <120> TITLE OF INVENTION: Hypohydrotic ectodermal dysplasia genes and proteins
   7 <130> FILE REFERENCE: 55924
   9 <140> CURRENT APPLICATION NUMBER: 09/729,658C
  10 <141> CURRENT FILING DATE: 2000-12-04
  12 <150> PRIOR APPLICATION NUMBER: 09/342,681
  13 <151> PRIOR FILING DATE: 1999-06-29
  15 <150> PRIOR APPLICATION NUMBER: 60/092,279
 16 <151> PRIOR FILING DATE: 1998-07-09
 18 <150> PRIOR APPLICATION NUMBER: 60/112,366
 19 <151> PRIOR FILING DATE: 1998-12-15
                                                                  ENTERED
 21 <160> NUMBER OF SEQ ID NOS: 127
 23 <170> SOFTWARE: PatentIn Ver. 2.1
 25 <210> SEQ ID NO: 1
 26 <211> LENGTH: 1574
 27 <212> TYPE: DNA
 28 <213> ORGANISM: Homo sapiens
 30 <220> FEATURE:
 31 <221> NAME/KEY: CDS
 32 <222> LOCATION: (242)..(1417)
 34 <400> SEQUENCE: 1
 35 attecetegg egggeeagee tecetetet eccegecete etcetecett teceaeceet 60
 37 cggagtagag ctgcacatgc ggctgctccc tgctccgtcc cgcccagcca ctgtcgcgca 120
 39 ggaacgggtc cctgcagccc ccagccgatg gcaggacagt agccgcctgt cagaggtcgt 180
 41 gaacggctga ggcagacgca gcggctcccg ggcctcaaga gagtgggtgt ctccggaggc 240
43 c atg ggc tac ccg gag gtg gag cgc agg gaa ctc ctg cct gca gca gcg 289
     Met Gly Tyr Pro Glu Val Glu Arg Arg Glu Leu Leu Pro Ala Ala Ala
45
47 ccg cgg gag cga ggg agc cag ggc tgc ggg tgt ggc ggg gcc cct gcc
48 Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly Cys Gly Gly Ala Pro Ala
                                                                      337
                                     25
51 cgg gcg ggc gaa ggg aac agc tgc ctg ctc ttc ctg ggt ttc ttt ggc
52 Arg Ala Gly Glu Gly Asn Ser Cys Leu Leu Phe Leu Gly Phe Phe Gly
                                40
55 ctc tcg ctg gcc ctc cac ctg ctg acg ttg tgc tgc tac cta gag ttg
56 Leu Ser Leu Ala Leu His Leu Leu Thr Leu Cys Cys Tyr Leu Glu Leu
                            55
59 cgc tcg gag ttg cgg cgg gaa cgt gga gcc gag tcc cgc ctt ggc ggc
60 Arg Ser Glu Leu Arg Arg Glu Arg Gly Ala Glu Ser Arg Leu Gly Gly
                                                                     481
                        70
63 tcg ggc acc cct ggc acc tct ggc acc cta agc agc ctc ggt ggc ctc
64 Ser Gly Thr Pro Gly Thr Ser Gly Thr Leu Ser Ser Leu Gly Gly Leu
                                                                     529
                                        90
```

DATE: 08/06/2002 PATENT APPLICATION: US/09/729,658C TIME: 17:02:16

Input Set : A:\55924.app

| 67 gac<br>68 Asp  | cct   | gac   | agc  | ccc  | atc  | acc   | agt  | cac   | ctt  | aaa  | Сал   | . aaa  | +  |   |   | 535  |
|---|---|---|--|--|--|---|--|---|--|--|---|--|--|---|---|--|
|   | Pro   | Asp   | Ser  | Pro  | Ile  | Thr   | Ser  | His   | Leu  | Gly  | Gln   | Pro  | Ser  | Pro   | . aag   | 577  |
| 0,5   |   |   | 700  |  |  |   |  | 105   |  |  |   |  | 110  |   |   |  |
| 71 cag<br>72 Gln  | Gln   | Pro   | LLG  | gaa  | ccg  | gga   | gaa  | gcc   | gca  | ctc  | cac   | tct  | gac  | tcc   | cag   | 625  |
| 72 Gln<br>73  | OI11  | 115   | Leu  | GIU  | PIO  | GTÀ   | 120  | Ala   | Ala  | Leu  | His   | Ser  | Asp  | Ser   | Gln   |  |
| 75 gac<br>76 Asp  | ggg   | cac   | cag  | atg  | qcc  | cta   | tta  | aat   | ttc  | ttc  | tta   | 125  | ~~+  |   |   |  |
|   | $\circ_{I}$   | His   | Gln  | Met  | Ăla  | Leu   | Leu  | Asn   | Phe  | Phe  | Phe   | Pro  | yaı.<br>Asn  | gaa   | aag   | 673  |
|   | 100   |   |  |  |  | 133   |  |   |  |  | 1 1 0   |  |  |   |   |  |
| 79 cca<br>80 Pro  | Tac   | tct   | gaa  | gaa  | gaa  | agt   | agg  | cgt   | gtt  | cgc  | cgc   | aat  | aaa  | aga   | agc   | 721  |
| 80 Pro<br>81 145  | тАт   | ser   | GLU  | GIU  | GLu<br>150   | Ser   | Arg  | Arg   | Val  | Arg  | Arg   | Asn  | Lys  | Arg   | Ser   |  |
| 83 aaa<br>84 Lys  | agc   | aat   | gaa  | ααа  | 100  | αat   | aaa  | 003   | ~++  | 155  |   |  |  |   | 160   |  |
| 84 Lys<br>85  | Ser   | Asn   | Glu  | Gly  | Ala  | Asp   | Glv  | Pro   | Val  | Lve  | Acn   | aag  | aaa  | aag   | gga   | 769  |
|   |   |   |  | TOO  |  |   |  |   | 170  |  |   |  |  | 175   |   |  |
| 87 aag<br>88 Lys  | aaa   | gca   | gga  | cct  | cct  | gga   | ccc  | aat   | ggc  | cct  | cca   | qqa  | ccc  |   | aga   | 817  |
| 88 Lys<br>89  | Lys   | Ala   | GTA  | Pro  | Pro  | Gly   | Pro  | Asn   | Gly  | Pro  | Pro   | Gly  | Pro  | Pro   | Glv   | 01/  |
|   |   |   | T 0 0  |  |  |   |  | 185   |  |  |   |  | 100  |   |   |  |
| 91 cct<br>92 Pro  | Pro   | gya<br>Glv  | Pro  | Cag  | gga  | CCC   | cca  | gga   | att  | cca  | ggg   | att  | cct  | gga   | att   | 865  |
| 92 Pro<br>93  |   | 195   | 110  | GIII   | СТУ  | PIO   | 200  | GIY   | Пе   | Pro  | Gly   | Ile  | Pro  | Gly   | Ile   |  |
| 95 cca<br>96 Pro  | gga   | aca   | act  | gtt  | atq  | qqa   | cca  | cct.  | aat  | cct  | CCa   | 205  | aat  |   |   | 0.1.0  |
| 30 110  | Cry   | Thr   | Thr  | Val  | Met  | Gly   | Pro  | Pro   | Glv  | Pro  | Pro   | ggt<br>Glv   | Pro  | Pro   | ggt   | 913  |
|   | 210   |   |  |  |  | 215   |  |   |  |  | 220   |  |  |   |   |  |
| 99 CCT  | caa   | $\alpha\alpha$  | ~~~  |  | ~~~  |   |  |   |  |  |   |  |  |   |   |  |
| 100 Pro   | Cla   | gga<br>Gl   | D  | 001  | gge  | CTC   | cag  | gga   | cct  | tct  | ggt   | gct  | gct  | gat   | aaa   | 961  |
| 99 cct<br>100 Pro<br>101 225  | 0111  | Gly   | Pro  | Pro  | GIY  | Leu   | cag<br>Gln   | gga<br>Gly  | cct<br>Pro   | Ser  | ggt<br>Gly  | gct<br>Ala   | gct<br>Ala   | gat<br>Asp  | aaa<br>Lys  | 961  |
| 101 225   | OIII  | GLY   | FIO  | PIO  | 230  | Leu   | GIn  | GTA   | Pro  | Ser  | Gly   | Ala  | Ala  | Asp   | Lys   | 961  |
| 101 225<br>103 gct  | gga   | act   | cga  | gaa  | 230<br>aac   | Leu   | GIN  | GLY   | Pro  | Ser<br>235   | Gly   | Ala  | Ala  | Asp   | Lys<br>240  | 961  |
| 101 225<br>103 gct<br>104 Ala<br>105  | gga<br>Gly  | act<br>Thr  | cga<br>Arg   | gaa<br>Glu<br>245  | 230<br>aac<br>Asn  | cag<br>Gln  | cca<br>Pro   | gct<br>Ala  | gtg<br>Val   | Ser<br>235<br>gtg<br>Val   | Gly<br>cat<br>His   | Ala<br>cta<br>Leu  | Ala<br>cag<br>Gln  | Asp<br>ggc<br>Gly   | Lys<br>240<br>caa<br>Gln  |  |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg   | gga<br>Gly  | act<br>Thr  | cga<br>Arg   | gaa<br>Glu<br>245  | 230<br>aac<br>Asn  | cag<br>Gln  | cca<br>Pro   | gct<br>Ala  | gtg<br>Val<br>250  | Ser<br>235<br>gtg<br>Val   | Gly<br>cat<br>His   | Ala<br>cta<br>Leu  | Ala<br>cag<br>Gln  | Asp<br>ggc<br>Gly<br>255  | Lys<br>240<br>caa<br>Gln  | 1009   |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg<br>108 Gly  | gga<br>Gly  | act<br>Thr  | cga<br>Arg<br>att  | gaa<br>Glu<br>245  | 230<br>aac<br>Asn  | cag<br>Gln  | cca<br>Pro   | gct<br>Ala  | gtg<br>Val<br>250  | Ser<br>235<br>gtg<br>Val   | Gly<br>cat<br>His   | Ala<br>cta<br>Leu  | Ala<br>cag<br>Gln  | Asp<br>ggc<br>Gly<br>255  | Lys<br>240<br>caa<br>Gln  |  |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg<br>108 Gly<br>109   | gga<br>Gly<br>tca<br>Ser  | act<br>Thr<br>gca<br>Ala  | cga<br>Arg<br>att<br>Ile<br>260  | gaa<br>Glu<br>245<br>caa<br>Gln  | 230<br>aac<br>Asn<br>gtc<br>Val  | cag<br>Gln<br>aag<br>Lys  | cca<br>Pro<br>aat<br>Asn   | gct<br>Ala<br>gat<br>Asp  | gtg<br>Val<br>250<br>ctt<br>Leu  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser   | cat<br>His<br>ggt<br>Gly  | cta<br>Leu<br>gga<br>Gly   | cag<br>Gln<br>gtg<br>Val   | ggc<br>Gly<br>255<br>ctc<br>Leu   | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn  | 1009   |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg<br>108 Gly<br>109<br>111 gac  | gga<br>Gly<br>tca<br>Ser  | act<br>Thr<br>gca<br>Ala  | cga<br>Arg<br>att<br>Ile<br>260  | gaa<br>Glu<br>245<br>caa<br>Gln  | 230<br>aac<br>Asn<br>gtc<br>Val  | cag<br>Gln<br>aag<br>Lys  | cca<br>Pro<br>aat<br>Asn   | gct<br>Ala<br>gat<br>Asp<br>265   | gtg<br>Val<br>250<br>ctt<br>Leu  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser   | cat<br>His<br>ggt<br>Gly  | cta<br>Leu<br>gga<br>Gly   | cag<br>Gln<br>gtg<br>Val<br>270  | ggc<br>Gly<br>255<br>ctc<br>Leu   | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn  | 1009   |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg<br>108 Gly<br>109   | gga<br>Gly<br>tca<br>Ser  | act<br>Thr<br>gca<br>Ala  | cga<br>Arg<br>att<br>Ile<br>260  | gaa<br>Glu<br>245<br>caa<br>Gln  | 230<br>aac<br>Asn<br>gtc<br>Val  | cag<br>Gln<br>aag<br>Lys  | cca<br>Pro<br>aat<br>Asn<br>aac  | gct<br>Ala<br>gat<br>Asp<br>265   | gtg<br>Val<br>250<br>ctt<br>Leu  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser   | cat<br>His<br>ggt<br>Gly  | cta<br>Leu<br>gga<br>Gly<br>aag<br>Lys                             | cag<br>Gln<br>gtg<br>Val<br>270  | ggc<br>Gly<br>255<br>ctc<br>Leu   | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn  | 1009   |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg<br>108 Gly<br>109<br>111 gac<br>112 Asp<br>113<br>115 cgc   | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp  | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275   | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg  | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc   | 230<br>aac<br>Asn<br>gtc<br>Val<br>act<br>Thr                                    | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met  | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280  | gct<br>Ala<br>gat<br>Asp<br>265<br>ccc<br>Pro   | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val   | Cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe                                    | cta<br>Leu<br>gga<br>Gly<br>aag<br>Lys<br>285                      | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu                                    | ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat  | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn<br>CCC<br>Pro  | 1009<br>1057<br>1105                         |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg<br>108 Gly<br>109<br>111 gac<br>112 Asp<br>113<br>115 cgc<br>116 Arg                                | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc   | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275   | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg  | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc   | 230<br>aac<br>Asn<br>gtc<br>Val<br>act<br>Thr                                    | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met  | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280  | gct<br>Ala<br>gat<br>Asp<br>265<br>ccc<br>Pro   | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val   | Cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe                                    | cta<br>Leu<br>gga<br>Gly<br>aag<br>Lys<br>285                      | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu                                    | ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat  | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn<br>CCC<br>Pro  | 1009   |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg<br>108 Gly<br>109<br>111 gac<br>112 Asp<br>113<br>115 cgc<br>116 Arg<br>117                         | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc<br>Ser<br>290   | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275<br>ggg<br>Gly   | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg<br>gag<br>Glu  | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc<br>Ile<br>ctg<br>Leu  | 230<br>aac<br>Asn<br>gtc<br>Val<br>act<br>Thr                                    | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met<br>gta<br>Val                                    | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280<br>ctg<br>Leu                                    | gct<br>Ala<br>gat<br>Asp<br>265<br>ccc<br>Pro<br>gtg<br>Val   | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys<br>gac<br>Asp  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val<br>ggc<br>Gly   | cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe<br>acc<br>Thr                      | cta<br>Leu<br>gga<br>Gly<br>aag<br>Lys<br>285<br>tac<br>Tyr        | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu<br>ttc<br>Phe                      | Asp<br>ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat<br>His<br>atc   | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn<br>ccc<br>Pro<br>tat<br>Tyr                                    | 1009<br>1057<br>1105                         |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg<br>108 Gly<br>109<br>111 gac<br>112 Asp<br>113<br>115 cgc<br>116 Arg<br>117<br>119 agt              | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc<br>Ser<br>290   | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275<br>ggg<br>Gly   | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg<br>gag<br>Glu  | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc<br>Ile<br>ctg<br>Leu  | 230<br>aac<br>Asn<br>gtc<br>Val<br>act<br>Thr<br>gag<br>Glu                      | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met<br>gta<br>Val<br>295                             | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280<br>ctg<br>Leu                                    | gct<br>Ala<br>gat<br>Asp<br>265<br>ccc<br>Pro<br>gtg<br>Val   | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys<br>gac<br>Asp  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val<br>ggc<br>Gly   | cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe<br>acc<br>Thr                      | cta<br>cta<br>Leu<br>gga<br>Gly<br>aag<br>Lys<br>285<br>tac<br>Tyr | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu<br>ttc<br>Phe                      | Asp<br>ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat<br>His<br>atc   | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn<br>ccc<br>Pro<br>tat<br>Tyr                                    | 1009<br>1057<br>1105<br>1153                 |
| 101 225<br>103 gct<br>104 Ala<br>105<br>107 ggg<br>108 Gly<br>109<br>111 gac<br>112 Asp<br>113<br>115 cgc<br>116 Arg<br>117<br>119 agt<br>120 Ser   | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc<br>Ser<br>290   | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275<br>ggg<br>Gly   | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg<br>gag<br>Glu  | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc<br>Ile<br>ctg<br>Leu  | 230<br>aac<br>Asn<br>gtc<br>Val<br>act<br>Thr<br>gag<br>Glu<br>tac               | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met<br>gta<br>Val<br>295                             | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280<br>ctg<br>Leu                                    | gct<br>Ala<br>gat<br>Asp<br>265<br>ccc<br>Pro<br>gtg<br>Val   | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys<br>gac<br>Asp  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val<br>ggc<br>Gly<br>act<br>Thr                             | cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe<br>acc<br>Thr                      | cta<br>cta<br>Leu<br>gga<br>Gly<br>aag<br>Lys<br>285<br>tac<br>Tyr | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu<br>ttc<br>Phe                      | Asp<br>ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat<br>His<br>atc   | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn<br>ccc<br>Pro<br>tat<br>Tyr                                    | 1009<br>1057<br>1105                         |
| 101 225 103 gct 104 Ala 105 107 ggg 108 Gly 109 111 gac 112 Asp 113 115 cgc 116 Arg 117 119 agt 120 Ser 121 305                                     | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc<br>Ser<br>290<br>cag<br>Gln                             | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275<br>ggg<br>Gly<br>gta<br>Val                             | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg<br>gag<br>Glu<br>gaa<br>Glu                                    | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc<br>Ile<br>ctg<br>Leu<br>gta<br>Val                                    | 230<br>aac<br>Asn<br>gtc<br>Val<br>act<br>Thr<br>gag<br>Glu<br>tac<br>Tyr<br>310 | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met<br>gta<br>Val<br>295<br>tac<br>Tyr               | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280<br>ctg<br>Leu<br>atc                             | gct<br>Ala<br>gat<br>Asp<br>265<br>ccc<br>Pro<br>gtg<br>Val<br>aac<br>Asn                             | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys<br>gac<br>Asp  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val<br>ggc<br>Gly<br>act                                    | cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe<br>acc<br>Thr<br>300<br>gac<br>Asp | Ala cta Leu gga Gly aag Lys 285 tac Tyr ttt Phe                    | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu<br>ttc<br>Phe<br>gcc               | Asp<br>ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat<br>His<br>atc<br>Ile<br>agc<br>Ser                                    | Lys 240 caa Gln aat Asn ccc Pro tat Tyr tat   | 1009<br>1057<br>1105<br>1153                 |
| 101 225 103 gct 104 Ala 105 107 ggg 108 Gly 109 111 gac 112 Asp 113 115 cgc 116 Arg 117 119 agt 120 Ser 121 305 123 gag 124 Glu                     | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc<br>Ser<br>290<br>cag<br>Gln                             | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275<br>ggg<br>Gly<br>gta<br>Val                             | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg<br>gag<br>Glu<br>gaa<br>Glu                                    | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc<br>Ile<br>ctg<br>Leu<br>gta<br>Val                                    | 230<br>aac<br>Asn<br>gtc<br>Val<br>act<br>Thr<br>gag<br>Glu<br>tac<br>Tyr<br>310 | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met<br>gta<br>Val<br>295<br>tac<br>Tyr               | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280<br>ctg<br>Leu<br>atc                             | get<br>Ala<br>gat<br>Asp<br>265<br>ccc<br>Pro<br>gtg<br>Val<br>aac<br>Asn                             | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys<br>gac<br>Asp  | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val<br>ggc<br>Gly<br>act<br>Thr                             | cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe<br>acc<br>Thr<br>300<br>gac<br>Asp | Ala cta Leu gga Gly aag Lys 285 tac Tyr ttt Phe                    | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu<br>ttc<br>Phe<br>gcc<br>Ala        | Asp<br>ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat<br>His<br>atc<br>Ile<br>agc<br>Ser                                    | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn<br>ccc<br>Pro<br>tat<br>Tyr<br>tat<br>Tyr<br>320               | 1009<br>1057<br>1105<br>1153                 |
| 101 225 103 gct 104 Ala 105 107 ggg 108 Gly 109 111 gac 112 Asp 113 115 cgc 116 Arg 117 119 agt 120 Ser 121 305 123 gag 124 Glu 125                 | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc<br>Ser<br>290<br>cag<br>Gln<br>gtg<br>Val               | act<br>Thr<br>gca<br>Ala<br>tct<br>ser<br>275<br>ggg<br>Gly<br>gta<br>Val                             | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg<br>gag<br>Glu<br>gaa<br>Glu<br>gtg<br>Val                      | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc<br>Ile<br>ctg<br>Leu<br>gta<br>Val<br>gat<br>Asp<br>325               | 230 aac Asn gtc Val act Thr gag Glu tac Tyr 310 gag Glu                          | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met<br>gta<br>Val<br>295<br>tac<br>Tyr<br>aag<br>Lys | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280<br>ctg<br>Leu<br>atc<br>Ile                      | gct<br>Ala<br>gat<br>Asp<br>265<br>ccc<br>Pro<br>gtg<br>Val<br>aac<br>Asn<br>ttc                      | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys<br>gac<br>Asp<br>ttc<br>Phe<br>ctg                             | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val<br>ggc<br>Gly<br>act<br>Thr<br>315<br>cag<br>Gln        | cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe<br>acc<br>Thr<br>300<br>gac<br>Asp | Ala cta Leu gga Gly aag Lys 285 tac Tyr ttt Phe aca Thr            | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu<br>ttc<br>Phe<br>gcc<br>Ala<br>cgc | Asp<br>ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat<br>His<br>atc<br>Ile<br>agc<br>Ser                                    | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn<br>ccc<br>Pro<br>tat<br>Tyr<br>tat<br>Tyr<br>320<br>atc<br>Ile | 1009<br>1057<br>1105<br>1153                 |
| 101 225 103 gct 104 Ala 105 107 ggg 108 Gly 109 111 gac 112 Asp 113 115 cgc 116 Arg 117 119 agt 120 Ser 121 305 123 gag 124 Glu 125 127 gag         | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc<br>Ser<br>290<br>cag<br>Gln<br>gtg<br>Val               | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275<br>ggg<br>Gly<br>gta<br>Val<br>gtg<br>Val               | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg<br>gag<br>Glu<br>gaa<br>Glu<br>gtg<br>Val                      | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc<br>Ile<br>ctg<br>Leu<br>gta<br>Val<br>gat<br>Asp<br>325<br>acc        | 230 aac Asn gtc Val act Thr gag Glu tac Tyr 310 gag Glu                          | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met<br>gta<br>Val<br>295<br>tac<br>Tyr<br>aag<br>Lys | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280<br>ctg<br>Leu<br>atc<br>Ile                      | get<br>Ala<br>gat<br>Asp<br>265<br>ccc<br>Pro<br>gtg<br>Val<br>aac<br>Asn<br>ttc<br>Phe               | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys<br>gac<br>Asp<br>ttc<br>Phe<br>ctg<br>Leu<br>330               | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val<br>ggc<br>Gly<br>act<br>Thr<br>315<br>cag<br>Gln        | cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe<br>acc<br>Thr<br>300<br>gac<br>Asp | Ala cta Leu gga Gly aag Lys 285 tac Tyr ttt Phe aca Thr            | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu<br>ttc<br>Phe<br>gcc<br>Ala<br>cgc | Asp<br>ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat<br>His<br>atc<br>Ile<br>agc<br>Ser<br>agc<br>Ser<br>335               | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn<br>ccc<br>Pro<br>tat<br>Tyr<br>tat<br>Tyr<br>320<br>atc<br>Ile | 1009<br>1057<br>1105<br>1153<br>1201<br>1249 |
| 101 225 103 gct 104 Ala 105 107 ggg 108 Gly 109 111 gac 112 Asp 113 115 cgc 116 Arg 117 119 agt 120 Ser 121 305 123 gag 124 Glu 125 127 gag 128 Glu | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc<br>Ser<br>290<br>cag<br>Gln<br>gtg<br>Val               | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275<br>ggg<br>Gly<br>gta<br>Val<br>gtg<br>Val<br>ggc<br>Gly | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg<br>gag<br>Glu<br>gaa<br>Glu<br>gtg<br>Val<br>aag<br>Lys        | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc<br>Ile<br>ctg<br>Leu<br>gta<br>Val<br>gat<br>Asp<br>325<br>acc        | 230 aac Asn gtc Val act Thr gag Glu tac Tyr 310 gag Glu                          | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met<br>gta<br>Val<br>295<br>tac<br>Tyr<br>aag<br>Lys | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280<br>ctg<br>Leu<br>atc<br>Ile                      | gct Ala gat Asp 265 ccc Pro gtg Val aac Asn ttc Phe act Thr   | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys<br>gac<br>Asp<br>ttc<br>Phe<br>ctg<br>Leu<br>330               | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val<br>ggc<br>Gly<br>act<br>Thr<br>315<br>cag<br>Gln        | cat<br>His<br>ggt<br>Gly<br>ttt<br>Phe<br>acc<br>Thr<br>300<br>gac<br>Asp | Ala cta Leu gga Gly aag Lys 285 tac Tyr ttt Phe aca Thr            | cag<br>Gln<br>gtg<br>Val<br>270<br>cta<br>Leu<br>ttc<br>Phe<br>gcc<br>Ala<br>cgc | Asp<br>ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat<br>His<br>atc<br>Ile<br>agc<br>Ser<br>agc<br>Ser<br>335               | Lys<br>240<br>caa<br>Gln<br>aat<br>Asn<br>ccc<br>Pro<br>tat<br>Tyr<br>tat<br>Tyr<br>320<br>atc<br>Ile | 1009<br>1057<br>1105<br>1153                 |
| 101 225 103 gct 104 Ala 105 107 ggg 108 Gly 109 111 gac 112 Asp 113 115 cgc 116 Arg 117 119 agt 120 Ser 121 305 123 gag 124 Glu 125                 | gga<br>Gly<br>tca<br>Ser<br>tgg<br>Trp<br>agc<br>Ser<br>290<br>cag<br>Gln<br>gtg<br>Val<br>acg<br>Thr | act<br>Thr<br>gca<br>Ala<br>tct<br>Ser<br>275<br>ggg<br>Gly<br>gta<br>Val<br>gtg<br>Val               | cga<br>Arg<br>att<br>Ile<br>260<br>cgc<br>Arg<br>gag<br>Glu<br>gaa<br>Glu<br>gtg<br>Val<br>aag<br>Lys<br>340 | gaa<br>Glu<br>245<br>caa<br>Gln<br>atc<br>Ile<br>ctg<br>Leu<br>gta<br>Val<br>gat<br>Asp<br>325<br>acc<br>Thr | 230 aac Asn gtc Val act Thr gag Glu tac Tyr 310 gag Glu aac Asn                  | cag<br>Gln<br>aag<br>Lys<br>atg<br>Met<br>gta<br>Val<br>295<br>tac<br>Tyr<br>aag<br>Lys | cca<br>Pro<br>aat<br>Asn<br>aac<br>Asn<br>280<br>ctg<br>Leu<br>atc<br>Ile<br>ccc<br>Pro<br>aac | gct<br>Ala<br>gat<br>Asp<br>265<br>CCC<br>Pro<br>gtg<br>Val<br>aac<br>Asn<br>ttc<br>Phe<br>act<br>Thr | gtg<br>Val<br>250<br>ctt<br>Leu<br>aag<br>Lys<br>gac<br>Asp<br>ttc<br>Phe<br>ctg<br>Leu<br>330<br>tgc<br>Cys | Ser<br>235<br>gtg<br>Val<br>tca<br>Ser<br>gtg<br>Val<br>ggc<br>Gly<br>act<br>Thr<br>315<br>cag<br>Gln<br>tat | cat His ggt Gly ttt Phe acc Thr 300 gac Asp tgc Cys acc Thr               | Ala cta Leu gga Gly aag Lys 285 tac Tyr ttt Phe aca Thr gca Ala    | ala cag Gln gtg Val 270 cta Leu ttc Phe gcc Ala cgc Arg                          | Asp<br>ggc<br>Gly<br>255<br>ctc<br>Leu<br>cat<br>His<br>atc<br>Ile<br>agc<br>Ser<br>agc<br>Ser<br>335<br>gtc<br>Val | Lys 240 caa Gln aat Asn ccc Pro tat Tyr tat Tyr 320 atc Ile tgc Cys                                   | 1009<br>1057<br>1105<br>1153<br>1201<br>1249 |

PATENT APPLICATION: US/09/729,658C

DATE: 08/06/2002
TIME: 17:02:16

Input Set : A:\55924.app

| (*************************************   |
|--|
| 132 Leu Leu Lys Ala Arg Gln Lys Ile Ala Val Lys Met Val His Ala Asp  |
| 133 355 360 265 Met Val His Ala Asp  |
| TO ALC ECC ATC and at-   |
| 136 lie Ser Ile Asn Met Ser Lys His Thr Thr Dha  |
| 13/ 3/U and the Pile GIV Ala Tio Ame   |
| 139 CLY ggt gaa gcc cct ggs to 300   |
| 140 Leu Gly Glu Ala Pro Ala Ser  |
| 141 303  |
| 143 ttccctgggt ttgggagcca ggactcccaa aacctctaag tgctgctgtg gagtgaggtg 1507   |
| 145 tattggtgtt gcagccgcag agaaatgccc cattgttatt tattccccag tgactccagg 1507 147 gtgacaa 150 <210 SEC TO US  |
| Jegacia Jegacia 1507   |
| \210/ DEU 11) NO. 7  |
| 151 <211> LENGTH: 391  |
| 152 <212> TYPE: PRT  |
| 153 <213> ORGANISM: Homo sapiens   |
| \ \ \ \ \ \ \  |
| 156 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu Leu Leu Pro Ala Ala Ala 158 Pro Ara 5  |
| 5 10 Leu Leu Pro Ala Ala Ala   |
| 150 Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly Cys Gly  |
| 158 Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly Cys Gly Gly Ala Pro Ala  |
| 160 Arg Ala Gly Glu Gly Asn Ser Cys Leu Leu Phe Leu Gly Phe Phe Gly  161 35 40   |
| 162 Low Con T  |
| 162 Leu Ser Leu Ala Leu His Leu Leu Thr Leu Cys Cys Tyr Leu Glu Leu  164 Arg Grand Script Control of the Gry  164 Arg Grand Script Control of the Gry  165 Ser Leu Ala Leu His Leu Cys Cys Tyr Leu Glu Leu   |
| 164 Arg son gau z  |
| 164 Arg Ser Glu Leu Arg Arg Glu Arg Gly Ala Glu Ser Arg Leu Gly Gly 165 Sor Gly Till Teu Glu Leu 166 Sor Gly Till Teu Glu Leu 75   |
| 166 Ser Cly The Post of To 75  |
| 166 Ser Gly Thr Pro Gly Thr Ser Gly Thr Leu Ser Ser Leu Gly Gly Leu  168 Acr Dro 2   |
| 168 Asp Pro Agr Gr 90  |
| 168 Asp Pro Asp Ser Pro Ile Thr Ser His Leu Gly Gln Pro Ser Pro Lys  170 Cln   |
| 170 Gln Gln Pro Lov Gl -   |
| 170 Gln Gln Pro Leu Glu Pro Gly Glu Ala Ala Leu His Ser Asp Ser Gln 172 Asp Gl   |
| 172 Asp Glv His Cln Mot 11 120 125   |
| 172 Asp Gly His Gln Met Ala Leu Leu Asn Phe Phe Pro Asp Glu Lys  174 Asp Transport 135  174 Asp Transport 135  |
| 174 Pro Tyr Ser Glu Clu Clu Clu Clu Clu Clu Clu Clu Clu C  |
| 174 Pro Tyr Ser Glu Glu Glu Ser Arg Arg Val Arg Arg Asn Lys Arg Ser  |
| 176 Lys Ser Asn Glu Gly Ala Asp Gly Pro Val Lys Asn Lys Lys Lys Gly  178 Lyg Lys Lys Lys Gly   |
| 177 165 165 Pro Val Lys Asn Lys Lys Lys Gly  |
| 178 Lys Lys Ala Gly Pro Pro Gly Pro Asn Gly Pro Pro Gly  |
| 179 180 180 Pro Asn Gly Pro Pro Gly Pro Pro Gly  |
| 180 Pro Pro Gly Pro Gly Pro Pro Record 190   |
| 180 Pro Pro Gly Pro Gln Gly Pro Pro Gly Ile Pro Gly Ile Pro Gly Ile  182 Pro Gla Tib Gly  185 190  186 Pro Pro Gly Pro Gly Ile Pro Gly Ile  200  |
| 182 Pro Gly Thr Thr Val Met Gly Pro Pro Gly  |
| 182 Pro Gly Thr Thr Val Met Gly Pro Pro Gl |
| 184 Pro Gln Gly Pro Pro Gly Leu Gln Cly Pro  |
| 184 Pro Gln Gly Pro Pro Gly Leu Gln Gly Pro Ser Gly Ala Ala Asp Lys  215 220 185 225 230 235   |
| 186 Ala Gly Thr Arg Glu Asn Gln Pro Ala Wal 235  |
| 186 Ala Gly Thr Arg Glu Asn Gln Pro Ala Val Val His Leu Gln Gly Gln  240  250  240  250  250   |
| 250 255 250 255 255 250 255  |
| 1- Wor Asy Leu Ser Gly Gly Val Leu Asn   |
|  |

PATENT APPLICATION: US/09/729,658C

DATE: 08/06/2002 TIME: 17:02:16

Input Set : A:\55924.app

|  | (1/25036C.raw   |             |
|--|---|-------------|
| 189 260  | 265   |             |
| 190 Asp Trp Ser Arg Ile  | Thr Met Asn Pro Lys Val Phe Lys Leu His Pro   |             |
| 191 275  | 280 280 Lys Val Phe Lys Leu His Pro   |             |
| 192 Arg Ser Gly Glu Leu (  | Glu Val Leu Val Asp Gly Thr Tyr Phe Ile Tyr   |             |
| 193 290  | 295 295   |             |
| 194 Ser Gln Val Glu Val n  | 7yr 7yr 71  |             |
| 195 305  | Tyr Tyr Ile Asn Phe Thr Asp Phe Ala Ser Tyr   |             |
| 196 Glu Val Val Val Agn  | 315   |             |
| 197 225  | 315 320 Glu Lys Pro Phe Leu Gln Cys Thr Arg Ser Ile   |             |
| 198 Glu Thr Gly Iva mb.  | 330   |             |
| 199  | 330 335 Asn Tyr Asn Thr Cys Tyr Thr Ala Gly Val Cys   |             |
| 200 Leu Lou Luc 21   | 345 350   |             |
| 200 hed Led Lys Ala Arg G  | 345 Gln Lys Ile Ala Val Lys Met Val His Ala Asp   |             |
| 201 355  | 360 365   |             |
| 202 lie Ser lie Asn Met S<br>203 370   | Ser Lys His Thr Thr Phe Phe Gly Ala Ile Arg   |             |
| 203 3/0  | 375 380   |             |
| 204 Leu Gly Glu Ala Pro A  | Ala Ser   |             |
| 40J 30J  | 390   |             |
| 209 <210> SEQ ID NO: 3   |   |             |
| 210 <211> LENGTH: 1661   |   |             |
| 211 <212> TYPE: DNA  |   |             |
| 212 <213> ORGANISM: Mus mu   | nisculus  |             |
| 214 <22U> FEATURE:   | wooding.  |             |
| 215 <221> NAME/KEY: CDS  |   |             |
| 216 <222> LOCATION: (142).   | (1275)  |             |
| 219 (400) 970  | ··(±2/5)  |             |
| 210 /400> SEQUENCE: 3  |   |             |
| 219 tcaggaacgg gtccctgcag  | 000000  |             |
| 219 tcaggaacgg gtccctgcag  | 000000  |             |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggaagag  | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60  | <b>1</b>    |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggaagag  | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag ggc agg  | 0           |
| 219 tcaggaacgg gtccctgcag<br>221 cgtgaaggac tgaggcagag<br>223 tagtggttgt ctctggaggc<br>224   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  | 0           |
| 219 tcaggaacgg gtccctgcag<br>221 cgtgaaggac tgaggcagag<br>223 tagtggttgt ctctggaggc<br>224<br>225  | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  | 0           |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gc   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  1 5 10  | 0<br>1      |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gc   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  1 5 10  | 0<br>1      |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229  | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly   | 0<br>1      |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 15 231 tgt cgc ggg gcc cct gcd   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25   | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 15 231 tgt cgc ggg gcc cct gcd   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25   | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233  | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25 ct cgg gcg ggc gaa ggg aac agc tgc cgg ctc 267 la Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu   | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 30 235 ttc ctg ggt ttc ttt ggg   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25 ct cgg gcg gac gag ggg aac agc tgc cgg ctc 267 la Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu 35 40   | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 30 235 ttc ctg ggt ttc ttt ggg   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25 ct cgg gcg gac gag ggg aac agc tgc cgg ctc 267 la Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu 35 40   | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237  | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 c atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25 ct cgg gcg gaa ggg aac agc tgc cgg ctc 267 a Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu 35 40 cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg y Leu Ser Leu Ala Leu His Leu Leu Thr Leu   | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttc   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 e atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25 ct cgg gcg ggc gaa ggg aac agc tgc cgg ctc 267 a Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu 35 40 cctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 y Leu Ser Leu Ala Leu His Leu Leu Thr Leu 50 55   | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttc   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 e atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25 ct cgg gcg ggc gaa ggg aac agc tgc cgg ctc 267 a Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu 35 40 cctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 y Leu Ser Leu Ala Leu His Leu Leu Thr Leu 50 55   | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 30 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttg 240 Cys Cys Tyr Leu Glu Leu 241 60   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly  20 25 ct cgg gcg ggc gaa ggg aac agc tgc cgg ctc 267 arg Ala Gly Glu Gly Asn Ser Cys Arg Leu  35 40 ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 gcg tcc gaa ttg cgg cgg gaa cgg gga acc 363 u Arg Ser Glu Leu Arg Arg Glu Arg Gly Thr  | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 30 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttg 240 Cys Cys Tyr Leu Glu Leu 241 60 243 gag tcc cgc ctc ggt ggg   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  1 5 10  Cg cca agg gag cgg ggc agc cag ggc tgc ggc 219  La Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly  20 25  Ct cgg gcg ggc gaa ggg aac agc tgc cgg ctc 267  Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu  35 40  Cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315  Cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  U Arg Ser Glu Leu Arg Arg Glu Arg Gly Thr  65 70  | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 30 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttg 240 Cys Cys Tyr Leu Glu Leu 241 60 243 gag tcc cgc ctc ggt ggg   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  1 5 10  Cg cca agg gag cgg ggc agc cag ggc tgc ggc 219  La Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly  20 25  Ct cgg gcg ggc gaa ggg aac agc tgc cgg ctc 267  Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu  35 40  Cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315  Cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  U Arg Ser Glu Leu Arg Arg Glu Arg Gly Thr  65 70  | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 30 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttg 240 Cys Cys Tyr Leu Glu Leu 241 60 243 gag tcc cgc ctc ggt ggg   | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  1 5 10  Cg cca agg gag cgg ggc agc cag ggc tgc ggc 219  La Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly  20 25  Ct cgg gcg ggc gaa ggg aac agc tgc cgg ctc 267  Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu  35 40  Cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315  Cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  U Arg Ser Glu Leu Arg Arg Glu Arg Gly Thr  65 70  | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttg 240 Cys Cys Tyr Leu Glu Leu 241 60 243 gag tcc cgc ctc ggt ggc 244 Glu Ser Arg Leu Gly Gly 245 75 247 agc agc cct ggg agc                                     | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 e atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25 ct cgg gcg gaa ggg aac agc tgc cgg ctc 267 a Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu 35 40 lc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 lc ctc tcg ctg acg ctg cgg gaa cgg gaa cgg gga acc 363 u Arg Ser Glu Leu Arg Arg Glu Arg Gly Thr 65 70 cccg ggt gct cct ggc acc cta 411 pro Gly Ala Pro Gly Thr Ser Gly Thr Leu 85 90  | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttg 240 Cys Cys Tyr Leu Glu Leu 241 60 243 gag tcc cgc ctc ggt ggc 244 Glu Ser Arg Leu Gly Gly 245 75 247 agc agc cct ggg agc                                     | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 e atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25 ct cgg gcg gaa ggg aac agc tgc cgg ctc 267 a Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu 35 40 lc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 lc ctc tcg ctg acg ctg cgg gaa cgg gaa cgg gga acc 363 u Arg Ser Glu Leu Arg Arg Glu Arg Gly Thr 65 70 cccg ggt gct cct ggc acc cta 411 pro Gly Ala Pro Gly Thr Ser Gly Thr Leu 85 90  | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttg 240 Cys Cys Tyr Leu Glu Leu 241 60 243 gag tcc cgc ctc ggt ggc 244 Glu Ser Arg Leu Gly Gly 245 75 247 agc agc cct ggg agc                                     | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 e atg ggc tac cca gag gta gag cgc agg gaa 171 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu 1 5 10 cg cca agg gag cgg ggc agc cag ggc tgc ggc 219 la Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly 20 25 ct cgg gcg gaa ggg aac agc tgc cgg ctc 267 a Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu 35 40 lc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315 lc ctc tcg ctg acg ctg cgg gaa cgg gaa cgg gga acc 363 u Arg Ser Glu Leu Arg Arg Glu Arg Gly Thr 65 70 cccg ggt gct cct ggc acc cta 411 pro Gly Ala Pro Gly Thr Ser Gly Thr Leu 85 90  | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttg 240 Cys Cys Tyr Leu Glu Leu 241 60 243 gag tcc cgc ctc ggt ggc 244 Glu Ser Arg Leu Gly Gly 245 75 247 agc agc cct ggg agc ctc 248 Ser Ser Pro Gly Ser Leu 249 | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  1 5 10  Gg cca agg gag cgg ggc agc cag ggc tgc ggc 219  La Pro Arg Glu Arg Gly Ser Gln Gly Cys Gly  20 25  Ct cgg gcg ggc gaa ggg aac agc tgc cgg ctc 267  Arg Ala Gly Glu Gly Asn Ser Cys Arg Leu  35 40  Cc ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315  Ge ctc tcg ctg gcc ctc cac ctg ctg acg ctg 315  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  G cgg tcc gaa ttg cgg cgg gaa cgg gga acc 363  G cgg ggt ccc gaa ttg cgg cgg gaa cgg gga acc 363  G cgg ggt ccc gaa ttg cgg cgg gaa cgg gga acc 363  G cgg ggt gct cct ggc acc tct ggc acc cta 411  G ccg ggt gct cct ggc acc tct ggc acc cta 411  G gac ccg gtg ggt ccc atc acc cgc cac ctg 459  G gac ccg gtg ggt ccc atc acc cgc cac ctg 459  G Asp Pro Val Gly Pro Ile Thr Arg His Leu | 0<br>1<br>9 |
| 219 tcaggaacgg gtccctgcag 221 cgtgaaggac tgaggcagag 223 tagtggttgt ctctggaggc 224 225 227 ccc ctg cct gcg gca gcc 228 Pro Leu Pro Ala Ala Ala 229 231 tgt cgc ggg gcc cct gct 232 Cys Arg Gly Ala Pro Ala 233 235 ttc ctg ggt ttc ttt ggc 236 Phe Leu Gly Phe Phe Gly 237 45 239 tgc tgc tac cta gag ttg 240 Cys Cys Tyr Leu Glu Leu 241 60 243 gag tcc cgc ctc ggt ggc 244 Glu Ser Arg Leu Gly Gly 245 75 247 agc agc cct ggg agc ctc 248 Ser Ser Pro Gly Ser Leu 249 | cccccagccg atggcaggac agtagtcgcc tgtcaggggt 60 gcagaggctc ccggagaggc agaggctccc gggcctcaga 120 Met Gly Tyr Pro Glu Val Glu Arg Arg Glu  1 5 10  10 20 25  11 20 25  12 20 25  13 20 25  14 20 25  15 20 25  16 27 28 29 29 29 20 29 29 29 29 29 29 29 29 29 29 29 29 29   | 0<br>1<br>9 |

PATENT APPLICATION: US/09/729,658C

DATE: 08/06/2002
TIME: 17:02:16

Input Set : A:\55924.app

| (00002002\1729658C.raw   |
|--|
| 252 Gly Gln Pro Ser Phe Gln Gln Gln Pro Leu Glu Pro Gly Glu Asp Pro  |
| 253 110 Leu Glu Pro Gly Glu Asp Pro  |
| 255 ctc ccc cct gag tog con 120  |
| 255 ctc ccc cct gag tcc cag gac cgg cac cag atg gcc ctc ctg aat ttc 555  |
| 25/ 125 The Med Ala Leu Leu Asn Phe  |
| 259 ttc ttt cct gat gap and 135  |
| 259 ttc ttt cct gat gaa aag gca tat tct gaa gag gaa agt agg cgt gtt 603 260 Phe Phe Pro Asp Glu Lys Ala Tyr Ser Glu Glu Glu Ser Arg Arg Val  |
| 261 140 - 1-261 Old Glu Ser Arg Arg Val  |
| 263 CQC CQC aat aag aga aga  |
| 264 Arg Arg Asn Lys Arg Ser Lys Ser Gly Glu Gly Ala Asp Gly Pro Val  |
| 265 155 265 150 265 265 265 265 265 265 265 265 265 265  |
| 267 aga agc agg agg agg agg agg agg agg agg  |
| 267 aaa aac aag aaa aag gga aag aag gca ggg cca cct ggg ccc aac ggc 699  |
| 268 Lys Asn Lys Lys Gly Lys Lys Ala Gly Pro Pro Gly Pro Asn Gly  175   |
| 271 CCC CC2 GC2 GC2 CC4  |
| 271 ccc cca gga cct cca gga cct ccg gga ccc cag gga cct cca ggg att 747  272 Pro Pro Gly Pro Pro Gly Pro Gly Pro Cly   |
| 272 Pro Pro Gly Pro Pro Gly Pro Pro Gly Ile  |
| 275 CG2 CG2 CG2 190  |
| 275 cca gga att cct ggg att cca gga aca act gtt atg gga cca cct ggc 795  |
| 276 Pro Gly Ile Pro Gly Ile Pro Gly Thr Thr Val Met Gly Pro Pro Gly 277 205 210  |
| 279 223 224 210 215  |
| 279 cca cct ggc cct cct ggt cct caa gga ccc cct ggc ctc caa gga cct 280 Pro Pro Gly Pr |
| 280 Pro Pro Gly Pro Pro Gly Pro Gln Gly Pro Pro Gly Leu Gln Gly Pro 281 220 225  |
| 201 220 225 220 225 230  |
| 283 tot ggt gct gct gat aaa act gga act cgg gaa aat cag cca gct gtg 891  |
| 284 Ser Gly Ala Ala Asp Lys Thr Gly Thr Arg Glu Asn Gln Pro Ala Val  |
| 287 gtg gat at a 240 245 245   |
| 207 969 Call CTd Cad dda an-   |
| 288 Val His Leu Gln Gly Gln Gly Ser Ala Ile Gln Val Lys Asn Asp Leu  289 255 260   |
| 269 255 260 266 Asn Asp Leu  |
| 201 UCA UCIT GGA GtG GtG G-1   |
| 292 Ser Gly Gly Val Leu Asn Asp Trp Ser Arg Ile Thr Met Asn Pro Lys  |
| 293 270 270 In the first Met Ash Pro Live  |
| 295 gtg ttt aaa cta cat car  |
| 296 Val Phe Lys Leu His Pro Arg Ser Cly Cly Low 23   |
| 29/ 285 Sta Bea Giu vai Tyr Tyr Tip  |
| 299 aac ttc act gag +++ man 295  |
| 300 Asn Phe Thr Asp Phe Ala Ser Tyr Clu Val Val  |
| 301 300 and 1 and  |
| 303 ttc ctg cag tgg agg gg 310   |
| 304 Phe Leu Gln Cys Thr Arg Ser Ile Glu Thr Gly Lys Thr Asn Tyr Asn 305 315 320  |
| 300 315 and the dry Lys Inf Ash Tyr Ash  |
| 30/ act tgc tat act gga ggg -t . 323   |
| 308 Thr Cys Tyr Thr Ala Gly Val Cys Lou Lou Land Tyr Thr Ala Gly Val Cys Lou Lou Land Tyr Thr Ala Gly Val Cys Lou Lou Land Tyr Tyr Thr Ala Gly Val Cys Lou Lou Lou Lou Lou Land Tyr  |
| 335 Francisco Los Ald Arg Gln Lvs Tle  |
| 311 qcc qtq aag atq qtq aar 1  |
| 312 Ala Val Lys Met Val His Ala Asp Ile Ser Ile Asn Met Ser Lys His 313 350 355  |
| 313 350 350 Set Tie Ash Met Ser Lys His  |
| 313 acc acc ttc ttc aga aga aga 360  |
| 316 Thr Thr Phe Phe Gly Ala Ile Arg Leu Gly Glu Ala Pro Ala Ser  |
| The Gry Ald lie Arg Leu Gly Glu Ala Pro Ala Ser  |
|  |

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/09/729,658C

DATE: 08/06/2002 TIME: 17:02:17

Input Set : A:\55924.app

Output Set: N:\CRF3\08062002\1729658C.raw

## Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; N Pos. 65 Seq#:9; N Pos. 754 Seq#:11; N Pos. 302 Seq#:12; N Pos. 2961,3423,3673 Seq#:43; N Pos. 39 Seq#:95; N Pos. 133,168,212,239,280,427,428,429 Seq#:97; N Pos. 453,533,579 Seq#:101; N Pos. 330,331,337,357,368,379,380,383,394,395,398,401,417,419 Seq#:101; N Pos. 423,434,435,436,442,443,447,448,450,452,454,457,460,462 Seq#:101; N Pos. 463,467,469,470,485,486,489,492,494,499,504,508,509,511 Seq#:101; N Pos. 518,522,534,537,542,544,545,559,572,574,586,597,602,603 Seq#:101; N Pos. 607,615,623,627,629,631,638,641,642,651,664,665,668,669 Seg#:101; N Pos. 673,690,695,697,706,717,718,719,731,742,743,753,757,760 Seq#:101; N Pos. 767,806,815,832,839,871,1163 Seq#:103; N Pos. 300,307 Seq#:105; N Pos. 325,397,400,403,416,433,441,454,460,462,474,479,487,495 Seq#:105; N Pos. 497,499,519,549,555,574,642 Seq#:109; N Pos. 190 Seq#:111; N Pos. 64,473,489,583,604,613,625,627,632,637,640,679,699,717,752 Seq#:113; N Pos. 210,213,219,222,225 Seq#:115; N Pos. 8,9,16,26,37,41,54,60,61,62,83,88,92,95,98,100,102,105,109 Seq#:115; N Pos. 114,117,123,131,139,141,144,148,154,155,157,165,171,177 Seq#:115; N Pos. 185,187,188,189,193,202,204 Seq#:116; N Pos. 528,626,665,2141,2665,2721,2722,2756